WHAT IS CLAIMED IS:

1. A correction apparatus for correcting a shift between optical axes in two separate optical units adapted such that a beam emitted from one unit enters the other, said correction apparatus comprising:

a converter for converting a positional shift between the optical axes into an angular shift; and

an angular corrector for correcting the angular shift.

2. A correction apparatus for correcting a shift between optical paths in two optical units adapted such that a beam emitted from one unit enters the other, said correction apparatus comprising:

a converter for converting a shift between the optical paths into an angular shift; and

an angular corrector for correcting the angular shift.

3. A correction apparatus for correcting a shift between optical axes in two separate optical units adapted such that a beam emitted from one unit enters the other, said correction apparatus comprising:

a first angular corrector for correcting an angular shift between the optical axes;

a converter for converting a positional shift between the optical axes into an angular shift; and

a second angular corrector for correcting the converted angular shift.

4. A correction apparatus according to claim 3, wherein at least one of said first and second angular correctors comprises:

a reflective mirror; and

a tilting mechanism for tilting said reflective mirror with respect to one of said optical axes.

5. A correction apparatus according to claim 3, wherein at least one of said first and second angular correctors comprises:

an optical member using total reflection utilizing a difference between refractive indexes; and

a tilting mechanism for tilting said optical member with respect to one of said optical axes.

6. A correction apparatus according to claim 3, further comprising:

a first detector for detecting the angular shift between the optical axes;

a second detector for detecting the converted angular shift corresponding to the positional shift between the optical axes; and

a controller, connected to said first and second detectors, which controls said first and second angular correctors based on detection results from said first and second detectors.

7. A correction apparatus according to claim 6, wherein at least one of said first and second angular correctors comprises:

a reflective mirror; and

a drive unit for driving said reflective mirror so that said reflective mirror may tilt with respect to one of said optical axes,

wherein said controller controls said drive unit.

8. An exposure apparatus comprising:

a correction apparatus for correcting a shift between optical axes in two separate optical units adapted such that a beam emitted from one unit enters the other, said correction apparatus comprising a converter for converting a positional shift between the optical axes into an angular shift, and an angular corrector for correcting the angular shift a light source in the one unit; and

an optical system in the other unit, that projects a pattern formed on a reticle or mask onto an object to be exposed with light from said light source.

9. An exposure apparatus comprising:

a correction apparatus for correcting a shift between optical paths in two optical units adapted such that a beam emitted from one unit enters the other, said correction apparatus comprising a converter for converting a shift between the optical paths into an angular shift, and an angular corrector for correcting the angular shift a light source in the one unit; and

an optical system in the other unit, that projects a pattern formed on a reticle or mask onto an object to be exposed with light from said light source.

10. An exposure apparatus comprising:

a correction apparatus for correcting a shift between optical axes in two separate optical units adapted such that a beam emitted from one unit enters the other, said correction apparatus comprising a first angular corrector for correcting an angular shift between the optical axes, a converter for converting a positional shift between the optical axes into an angular shift, and a second angular corrector for correcting the converted angular shift a light source in the one unit; and

an optical system in the other unit, that projects a pattern formed on a reticle or mask onto an object to be exposed with light from said light source.

11. A device fabricating method comprising the steps of:

exposing an object to be exposed using an exposure apparatus comprising a correction apparatus for correcting a shift between optical axes in two separate optical units adapted such that a beam emitted from one unit enters the other, said correction apparatus comprising a converter for converting a positional shift between the optical axes into an angular shift, and an angular corrector for correcting the angular shift, and an optical system for projecting a pattern formed on a reticle or mask onto the object to be exposed; and

performing predetermined processes for the object exposed.

12. A device fabricating method comprising the steps of:

exposing an object to be exposed using an exposure apparatus comprising a correction apparatus for correcting a shift between optical paths in two optical units adapted such that a beam emitted from one unit enters the other, said correction apparatus comprising a converter for converting a shift between the optical paths into an angular shift, and an angular corrector for correcting the angular shift, and an optical system for projecting a pattern formed on a reticle or mask onto the object to be exposed; and

performing predetermined processes for the object exposed.

13. A device fabricating method comprising the steps of:

exposing an object to be exposed using an exposure apparatus comprising a correction apparatus for correcting a shift between optical axes in two separate optical units adapted such that a beam emitted from one unit enters the other, said correction apparatus comprising a first angular corrector for correcting an angular shift between the optical axes, a converter for converting a positional shift between the optical axes into an angular shift, and a second angular corrector for correcting the converted angular shift, and an optical system for projecting a pattern formed on a reticle or mask onto the object to be exposed; and

performing predetermined processes for the object exposed.